Fig. 1

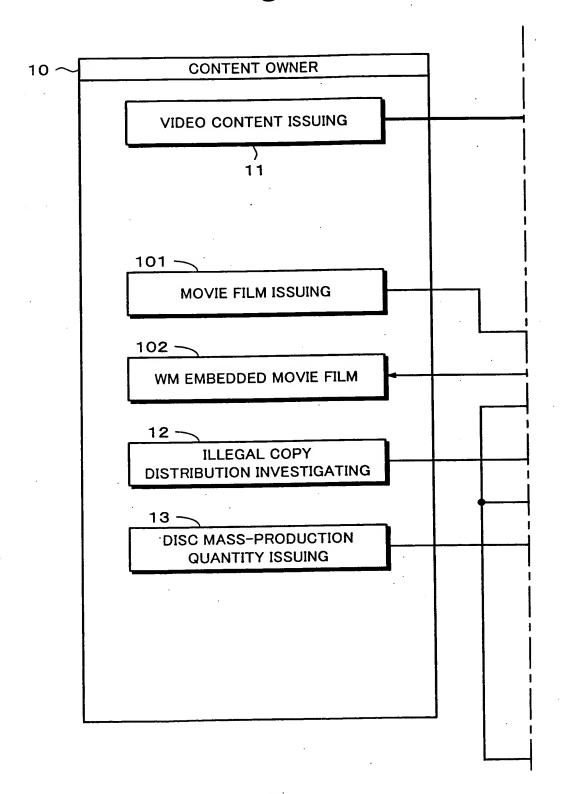
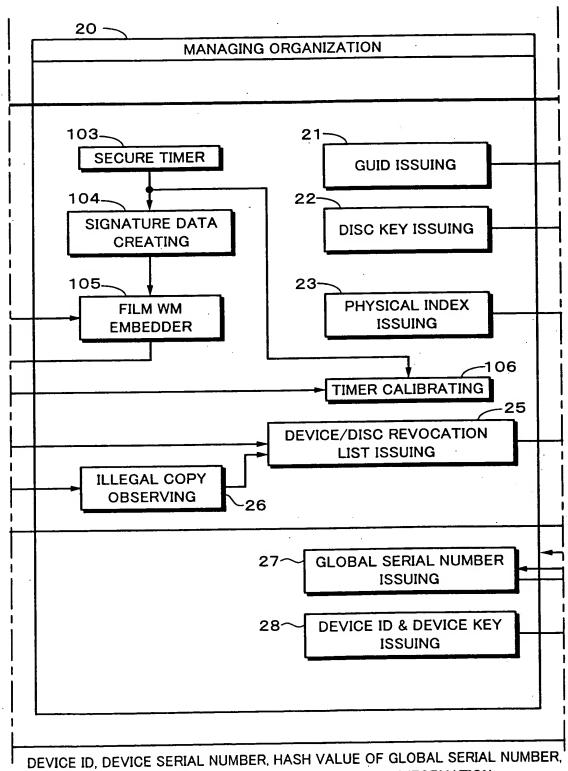
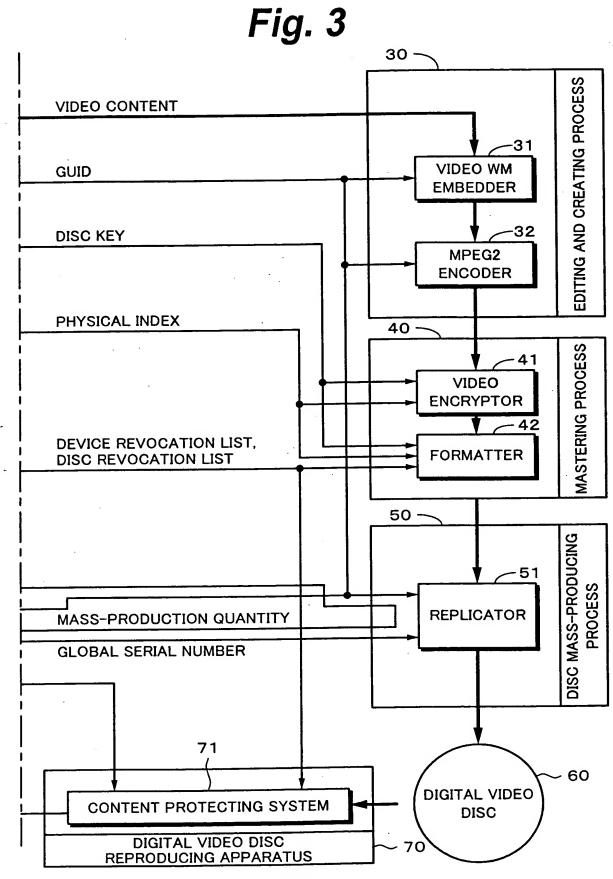
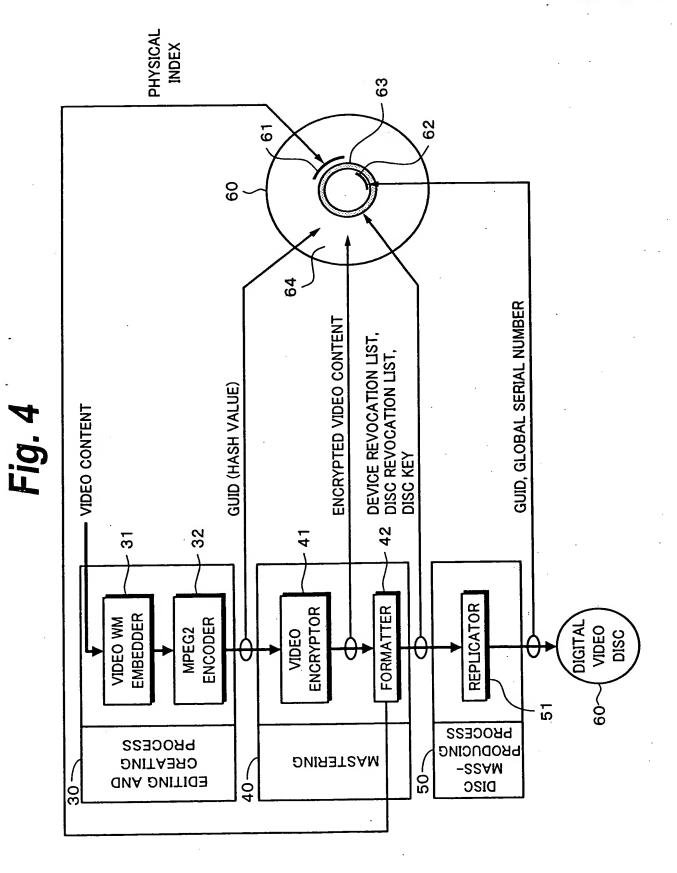


Fig. 2



TIMER INFORMATION, AND FILM WM STATUS INFORMATION





ORGANIZATION CONTENT VIDEO MANAGING ~70 SW4 ~84 SW5 -76 DISC REVOCATION SW3 89 COMPARATOR DEVICE SERIAL DETECTOR DETECTOR CHECKER DEVICE ID NUMBER VIDEO WM FILM WM **6**81 06 NON-VOLATILE 79 88 DIGITAL VIDEO DISC REPRODUCING APPARATUS NON-VOLATILE SIGNATURE LIST DECODER **DEVICE KĒY** 75 CREATOR MPEG2 MEMORY MEMORY **ENCRYPTION** DETECTOR SW2 87 DECRYPTOR HASH FUNCTION CHECKER VERSION SECURE TIMER SW6 DEVICE REVOCATION LIST, **IDENTIFIER** ROM **DISC REVOCATION** SERIAL NUMBER PHYSICAL INDEX SW1 GLOBAL DISC KEY GUID 64 61 ORGANIZATION 62 MANAGING 63

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Fig. 5

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Fig. 6

EDITING AND CREATING PROCESS

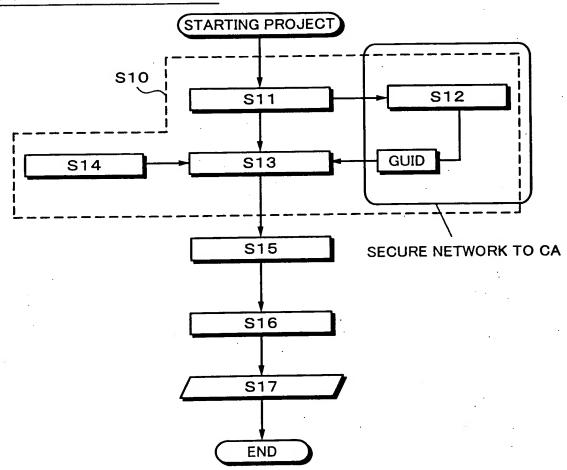


Fig. 7

DISC PRODUCING PROCESS

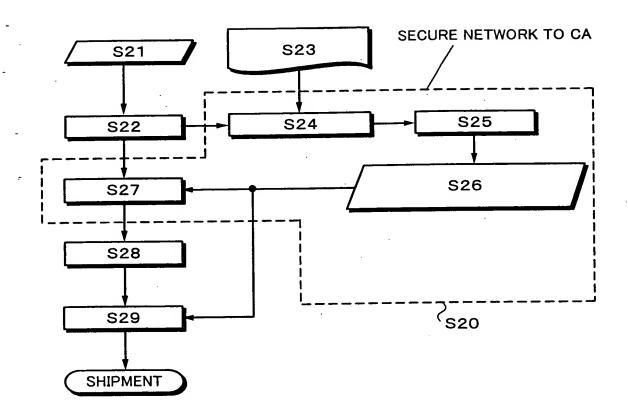


Fig. 8

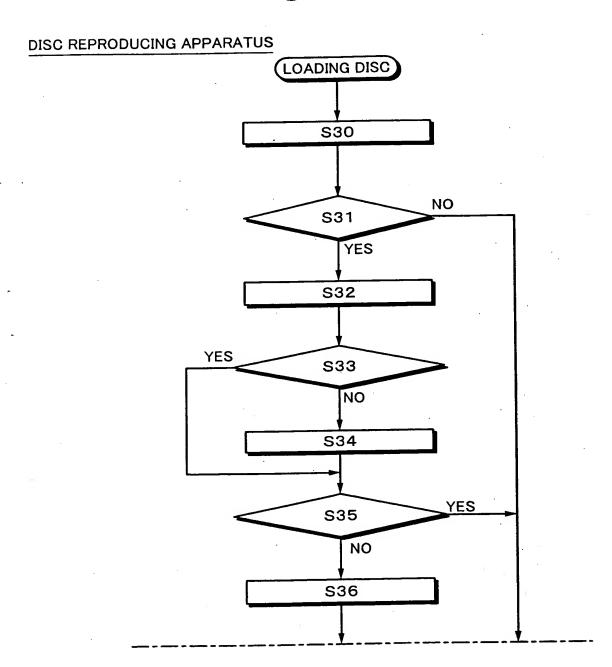


Fig. 9

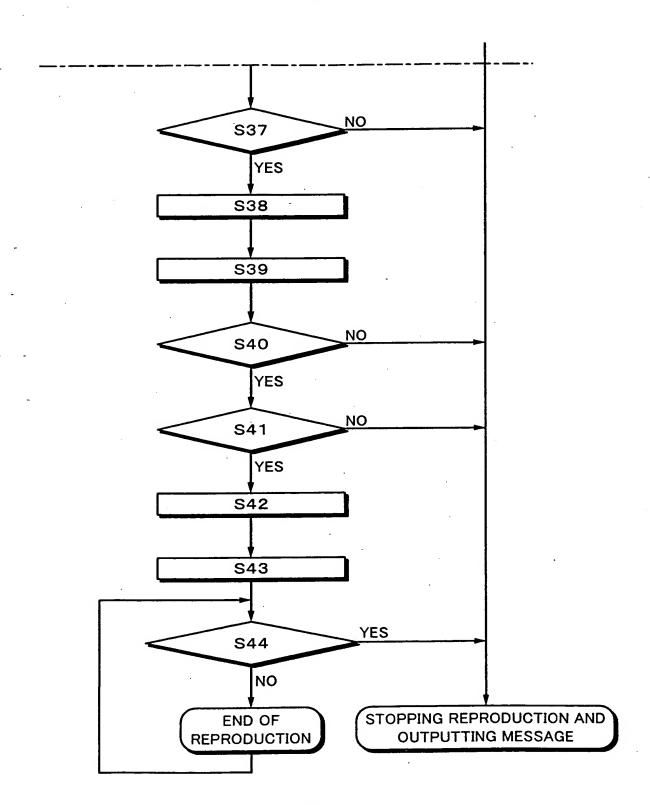


Fig. 10

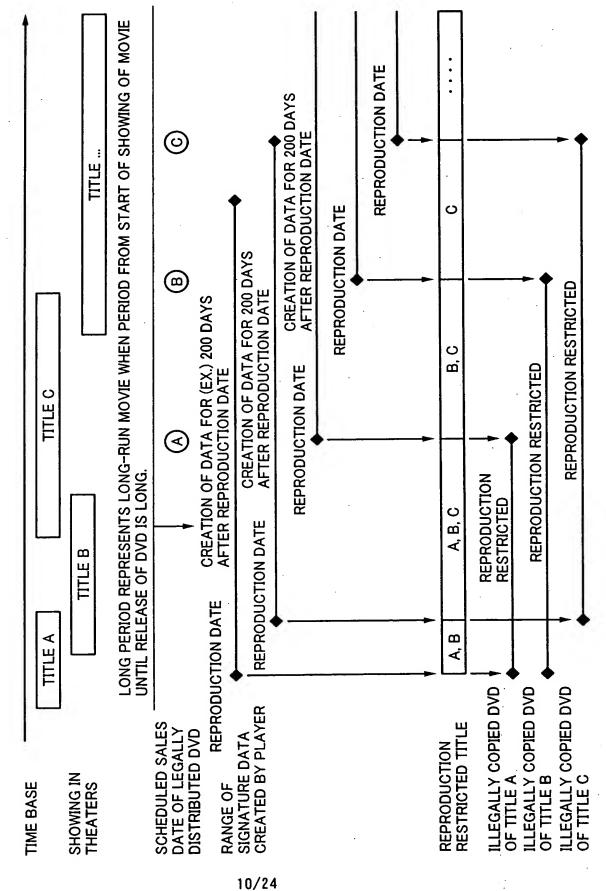


Fig. 11

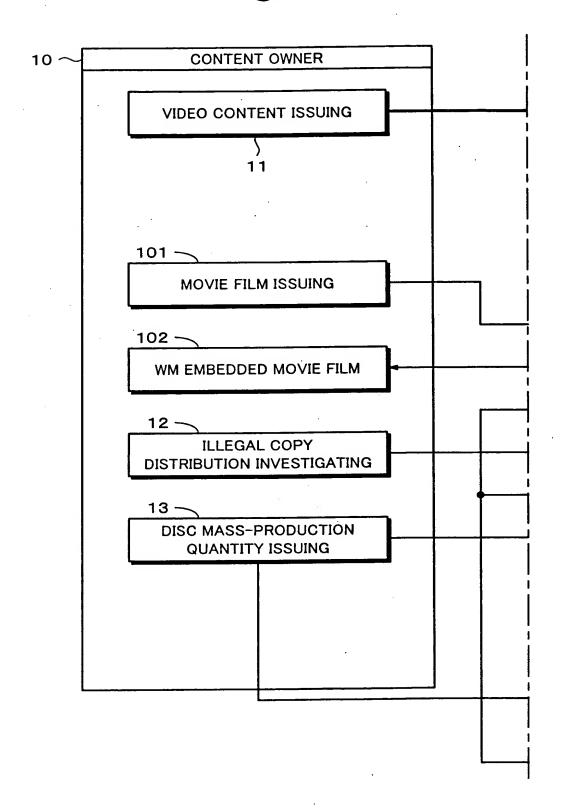


Fig. 12

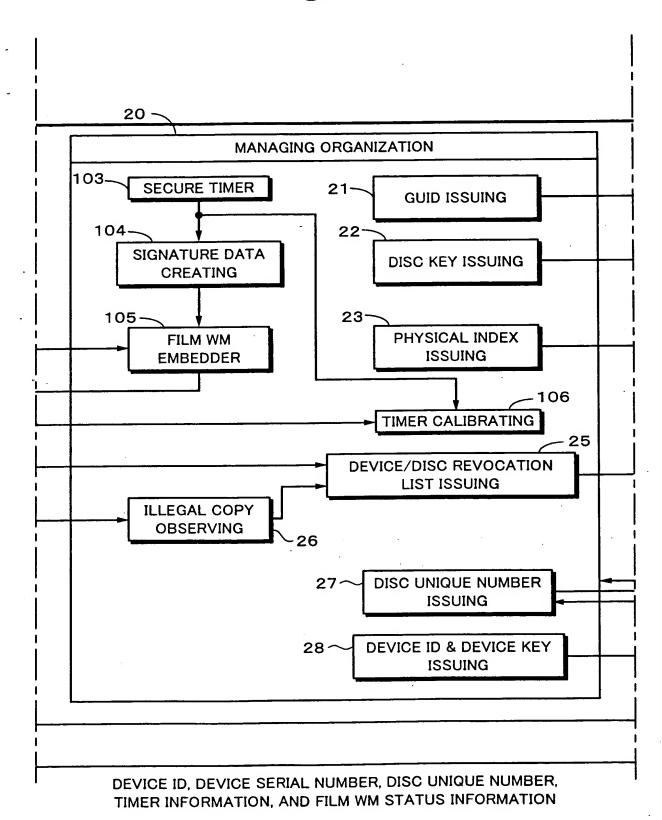
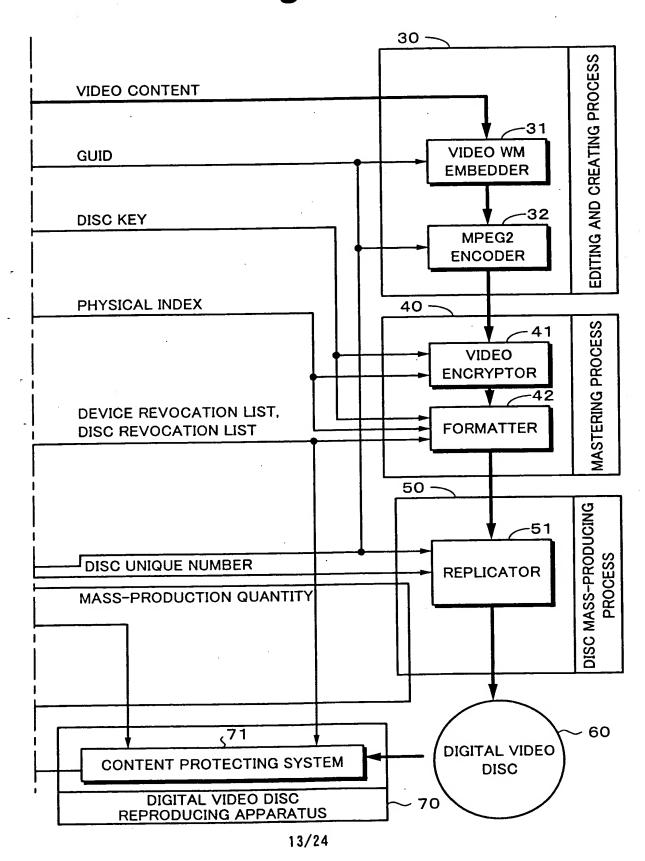


Fig. 13



PHYSICAL INDEX 63 62 6 9 64 ENCRYPTED VIDEO CONTENT GUID, DISC UNIQUE NUMBER DEVICE REVOCATION LIST, DISC REVOCATION LIST, DISC KEY Fig. 14 **GUID (HASH VALUE)** - VIDEO CONTENT 32 42 41 31 REPLICATOR ENCRYPTOR FORMATTER EMBEDDER VIDEO WM ENCODER DIGITAL VIDEO DISC VIDEO MPEG2 5 50-401 30-DISC MASS-PRODUCING PROCESS CREATING PROCESS **MASTERING** EDITING AND

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ORGANIZATION MANAGING CONTENT VIDEO 20 -77 SW4 591 9/ SW3 SW5 -92 DISC REVOCATION 68 84 FILM WM DETECTOR DETECTOR DEVICE SERIAL VIDEO WM DEVICE ID CHECKER NUMBER MPEG2 DECODER 88 COMPARATOR DEVICE KEY > 90 75 DIGITAL VIDEO DISC REPRODUCING APPARATUS DECODER MPEG2 NON-VOLATILE 79 NON-VOLATILE NON-VOLATILE MEMORY ENCRYPTION MEMORY DETECTOR MEMORY 8 SW2 83 <u>ლ</u> 80 82 SECURE TIMER VERSION CHECKER DECRYPTOR DEVICE REVOCATION LIST, SW6 DISC REVOCATION LIST DISC UNIQUE NUMBER **IDENTIFIER** PHYSICAL INDEX ROM SW1 **DISC KEY** ene Be 64 61 ORGANIZATION MANAGING 62 63 9

Fig. 15

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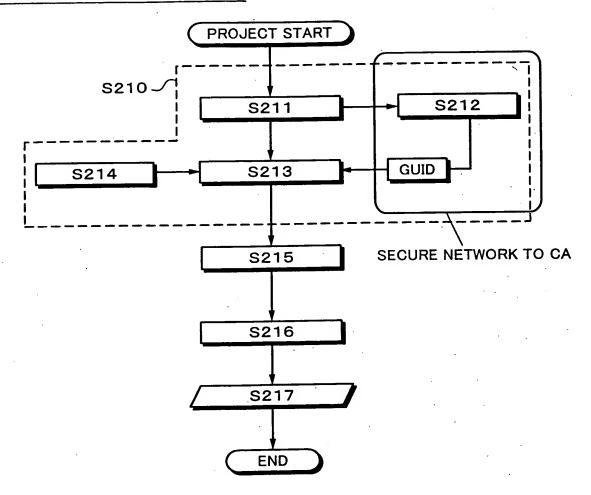
OBLON ET AL (703) 413-3000

DOCKET #26769001 SHEET/LOF 24

10/512073

Fig. 16

EDITING AND CREATING PROCESS



OBLON ET AL (703) 413-2000

DOCKET #261090015 SHEET 17 OF 24

10/512073

Fig. 17

DISC PRODUCING PROCESS

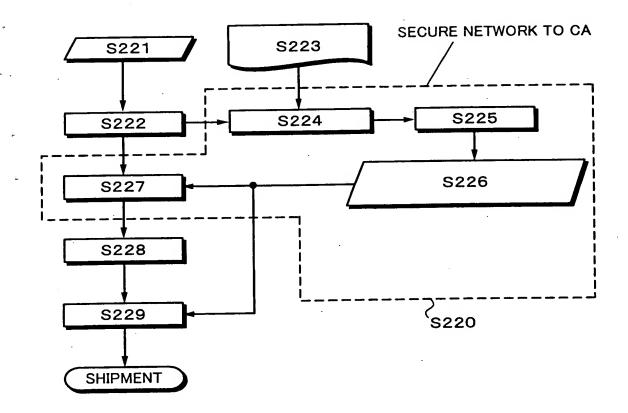


Fig. 18

DISC REPRODUCING APPARATUS

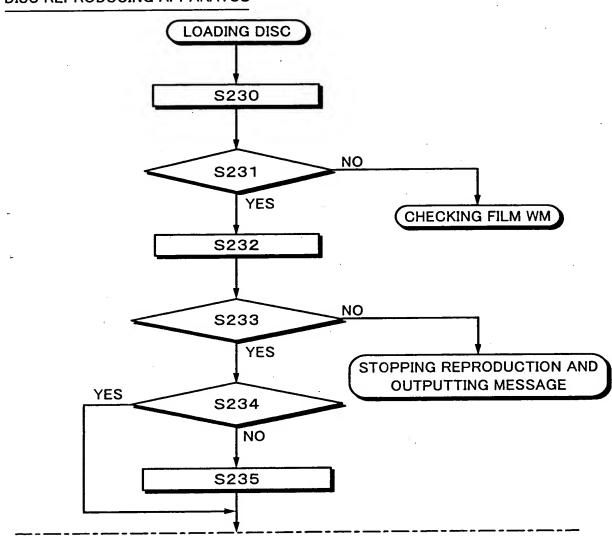


Fig. 19

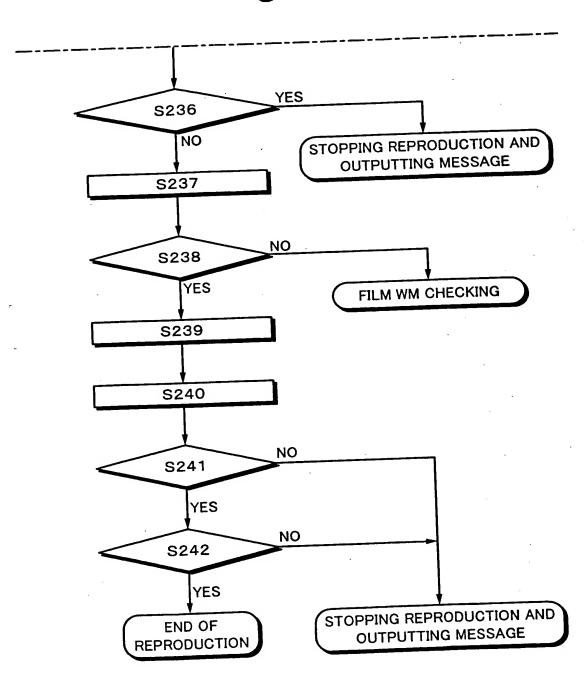
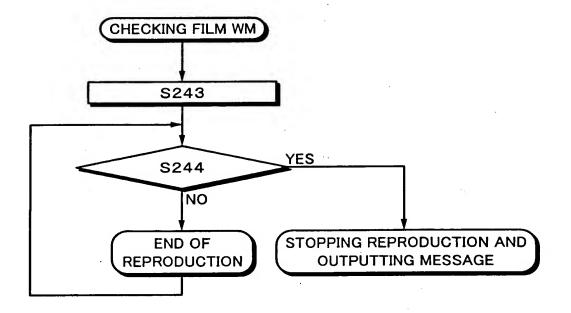


Fig. 20



DESCRIPTION OF REFERENCE NUMERALS

10	CONTENT OWNER
20	MANAGING ORGANIZATION
30	EDITING AND CREATING PROCESS
40	MASTERING PROCESS
50	DISC MASS-PRODUCING PROCESS
60	DIGITAL VIDEO DISC
70	DIGITAL VIDEO DISC REPRODUCING APPARATUS
61	PHYSICAL WATERMARK
62	BCA
63	LEAD-IN AREA
64	DATA AREA
72	ROM IDENTIFIER
74	ENCRYPTION DETECTOR
76	VIDEO ELECTRONIC WATERMARK DETECTOR
77	DISC REVOCATION CHECKER
79, 81	NON-VOLATILE MEMORY
80	VERSION CHECKER
82	SECURE TIMER
83	SIGNATURE LIST CREATOR
84	FILM ELECTRONIC WATERMARK DETECTOR
88	COMPARATOR
\$11	REQUEST CA TO ISSUE GUID.
\$12	ISSUE GUID.
\$13	EMBED VIDEO WM.

\$14	PROVIDE VIDEO WM.
\$15	ENCODE AUDIO, ETC.
\$16	MULTIPLEX AND INSERT GUID.
\$17	WRITE DISC IMAGE TO MASTER FORMAT.
\$21	RECEIVE DISC IMAGE.
S22	EXTRACT GUID.
S23	DESIGNATE DISC PRODUCTION QUANTITY FOR ORDER (n =
	MASS-PRODUCTION QUANTITY)
\$24	SEND GUID AND REQUEST SERIAL NUMBER.
\$25	MANAGING ORGANIZATION
- S26	AUTHORIZE PRODUCTION FOR DISCS (1. TRANSFER DISC KEY AND
	PHYSICAL INDEX, 2. TRANSFER SERIAL NUMBER, DEVICE REVOCATION
-	LIST, AND DISC REVOCATION LIST).
\$27	PRODUCE DISC MASTER.
\$28	REPLICATION
S29	POST MARK WITH UNIQUE ID (GUID, GLOBAL SERIAL NUMBER).
\$30	READ PHYSICAL INDEX.
S31	DETECTED ?
\$32	READ BCA (GUID AND GLOBAL SERIAL NUMBER).
\$33	HAS SAME SERIAL NUMBER BEEN STORED ?
S34	STORE SERIAL NUMBER.
\$35	HAS SERIAL NUMBER BEEN REVOKED ?
S36	READ LEAD-IN AREA (DEVICE REVOCATION LIST, DISC REVOCATION
	LIST, AND DISC KEY).
\$37	ENCRYPTED?

\$38	UPDATE DISC REVOCATION LIST.
\$39	START REPRODUCING.
- \$40	HAS VIDEO WM BEEN DETECTED ?
\$41	WM = HASH VALUE OF GUID ?
\$42	CONTINUE REPRODUCTION.
\$43	CREATE SIGNATURE LIST AND COMPARE WITH FILM WM STATUS.
\$44	DOES STATUS MATCH SIGNATURE LIST ?
\$211	REQUEST CA TO ISSUE GUID.
\$212	ISSUE GUID.
S213	EMBED VIDEO WM.
-\$21 4	PROVIDE VIDEO WM.
\$215	ENCODE AUDIO, ETC.
S Ź16	MULTIPLEX AND INSERT GUID.
\$217	WRITE DISC IMAGE TO MASTER FORMAT.
S221	RECEIVE DISC IMAGE.
S222 _.	EXTRACT GUID.
\$223	DESIGNATE DISC PRODUCTION QUANTITY FOR ORDER (n =
	MASS-PRODUCTION QUANTITY)
\$224	SEND GUID AND REQUEST DISC UNIQUE NUMBER.
\$225	MANAGING ORGANIZATION
\$226	AUTHORIZE PRODUCTION FOR DISCS (1. TRANSFER DISC KEY AND
	PHYSICAL INDEX, 2. TRANSFER UNIQUE NUMBER, DEVICE REVOCATION
	LIST, AND DISC REVOCATION LIST).
\$227	CREATE DISC MASTER.
\$228	REPLICATION

S22 9	POST MARK WITH UNIQUE ID (GUID AND DISC UNIQUE NUMBER).
\$230	READ PHYSICAL INDEX.
\$231	DETECTED ?
S232	READ BCA (GUID AND DISC UNIQUE NUMBER).
\$233	HAS DISC UNIQUE NUMBER BEEN CHECKED ?
S234	HAS SAME UNIQUE NUMBER BEEN STORED ?
\$235	STORE UNIQUE NUMBER.
S236	HAS UNIQUE NUMBER BEEN REVOKED ?
S237	READ LEAD-IN AREA (DEVICE REVOCATION LIST, DISC REVOCATION
	LIST, AND DISC KEY).
-S238	ENCRYPTED ?
\$239	UPDATE DISC REVOCATION LIST.
S240	START REPRODUCING.
S2-41	HAS VIDEO WM BEEN DETECTED ?
\$242	WM = HASH VALUE OF GUID ?
\$243	CREATE SIGNATURE LIST AND COMPARE WITH FILM WM STATUS.
S244	DOES STATUS MATCH SIGNATURE LIST ?